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ABSTRACT

Two major issues related to the National Assessment of Educational Progress (NAEP) are explored: (1) the roles and responsibilities of federal and state education agencies in reformulating NAEP to facilitate comparisons among states; and (2) problems and solutions in aligning or accounting for differences between national assessment objectives and state and local curricula. It is predicted that NAEP will come to be viewed as a national achievement test and that NAEP objectives will be perceived as a national curriculum. These changes will be the result of using NAEP to make state-by-state comparisons. The importance of curriculum coherence is discussed, in regard to effective instruction and in regard to state comparisons. Four recommendations are made: (1) NAEP should be reorganized to facilitate state comparisons, preserve and enhance curriculum coherence, and encourage improvement in instruction and learning; (2) NAEP objectives should be revised and integrated into state and local curricula in ways which preserve and enhance curriculum coherence; (3) state and local education agencies should reach a consensus on which NAEP objectives should be used for state comparisons; and (4) reports of NAEP results should describe NAEP objectives and the links between results and objectives. (Author/GDC)

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Using NAEP for State-by-State Comparisons: The Beginnings of a "National Achievement Test" and "National Curriculum"

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Using NAEP for State-by-State Comparisons: the Beginnings of a "National Achievement Test" and "National Curriculum"

Guidelines and Likely Responses to Aid Instruction and Achievement

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September 12, 1986

SUMMARY

In this paper we discuss issues related to two concerns of the Study Group on National Assessment: (1) What should be the roles and responsibilities of federal and state education agencies in reformulating NAEP to facilitate comparisons of states? and (2) What are some problems and solutions for aligning or accounting for differences between national assessment objectives and state and local curricula? In the course of considering these concerns we postulate that NAEP will come to be viewed as a "national achievement test" and that NAEP objectives will be perceived as a "national curriculum." We believe that these perceptions will result from using NAEP assessments to make state-by-state comparisons. In addition, we discuss the importance of "curriculum coherence" to effective instruction and learning and in relation to the use of NAEP for comparing states.

Our primary recommendations to the study group, bidders on the new NAEP contract, state and local education agencies, and the Department of Education include:

1. NAEP should be reformulated not only to (a) facilitate state comparisons, but also to (b) preserve and enhance curriculum coherence and (c) encourage improvement in instruction and learning.

2. Revisions of NAEP objectives, which are used to generate NAEP exercises, and integration of NAEP objectives into state and local curricula should be done in ways that preserve and enhance curriculum coherence.

3. Consensus on which NAEP objectives should be assessed and used for state-by-state comparisons should be reached only with input from representatives of state and local education agencies.

4. Future NAEP reports of NAEP results (e.g., The Reading Report Card) should include descriptions of the links between NAEP results and objectives assessed by NAEP.

Finally, in the course of describing likely responses by state and local education agencies to being compared to other states, we suggest further issues for consideration.

Using NAEP for State-by-State Comparisons: the Beginnings of a "National Achievement Test" and "National Curriculum"

Guidelines and Likely Responses to Aid Instruction and Achievement

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On occasion, U.S. Department of Education (ED) Secretary William A. Bennett's "Wall Chart" (U.S. DOE, 1985) has been described as a "bad idea done badly." The Wall Chart, which was last released in January 1985, ranks all states in three areas: resource inputs like per pupil expenditure, student performance outcomes such as Scholastic Aptitude Test (SAT) and American College Testing (ACT) Program scores, and student population characteristics such percent of minority enrollment. Many critics consider it unfair to compare states on variables like SAT and ACT scores, since student demographics, such as the percentage of high school seniors in a state who actually take the SAT (Powell & Steelman, 1984), and local curricula vary widely from state to state and so affect performance on these tests.

The Council of Chief State School Officers (CCSSO) apparently feels that comparisons among states can be done more effectively. During its 1984 Annual Meeting, the chiefs established their State Education Assessment Center and began discussions to standardize data collection procedures and choose the variables -- including achievement indicators — on which states could be compared. Much of the Center's efforts have focused on the possibility of using objectives and test exercises from National Assessment of Educational Progress (NAEP) assessments for these comparisons. Even Secretary Bennett has indicated his desire to improve the Wall Chart. He has criticized NAEP as it is currently constituted and charged present and future holders of the NAEP contract to reformulate NAEP to be more suitable for making state-by-state comparisons (Hertling, 1986). Presumably, once this takes place he will be able to incorporate NAEP results into the Wall Chart.

To facilitate this effort, a 22-member national task force was established to study problems and solutions related to national-level coordination of assessment in states, and specifically, NAEP's role in state assessment. The task force will study four broad areas related to the revision of NAEP for such comparisons: roles and

responsibilities of ED and the states; subject areas to be assessed; links to international and other assessments; and sharing of costs. The first area concerns two issues: (1) What should be the roles and responsibilities of federal and state education agencies (SEAs) in reformulating NAEP to facilitate comparisons of states? and (2) What are the problems and solutions for aligning or accounting for differences between national assessment objectives and state and local curricula?

The purpose of this paper is to address these two related questions as input to the Study Group on National Assessment. In the process of doing so, we will attempt to anticipate implications of reformulating NAEP for state-by-state comparisons for the bidders on the new NAEP contract, ED, and state and local education agencies (LEAs). The remainder of the paper is organized into three sections in which we:

1. Postulate that NAEP will come to be viewed as a "national achievement test" (for states rather than for individual students), and as a result, NAEP objectives will become viewed as representing a "national curriculum;"

2. Recommend that guidelines and procedures for aligning NAEP objectives and state and local curriculum and assessment objectives should preserve and enhance "curriculum coherence"; and

3. Identify instructional and other responses state and local instructional staff are likely to make to the use of NAEP in this way. This last section also contains further implications and considerations for ED's use of NAEP for state-by-state comparisons.

NAEP as a "National Achievement Test"

NAEP, or any other assessment that may be used for comparing states, is likely to become viewed as a "national achievement test" that will come to represent to many educators a "national curriculum" *de facto*. It is also likely that states -- those that compare both favorably and unfavorably to other states and the nation -- will begin to teach the contents of that curriculum because it is assessed and used as a basis for comparison and evaluation.

There is a persuasive body of evidence to support the notion of a test "driving" school curricula and classroom instruction. For example, many state-mandated minimum-competency tests (MCTs) were devised to ensure that basic skills curricula be taught and mastered. One of the purposes of these MCTs has been to drive local curricula, and they have afforded state education agencies (SEAs) and even state legislatures unprecedented influence on day-to-day classroom activities. Even tests not intended to influence local curriculum have done so. The College Entrance Examination Board's Advanced

Placement (AP) Examinations are one such example. AP tests were intended to exempt high achieving students from introductory-level college courses and to "encourage" high schools with strong academic programs (H.P. Hanson, personal communication, August 12, 1986). Yet high school "AP courses," designed specifically to prepare students for these tests, abound. Similarly, many high schools offer (probably inappropriate and ineffective) vocabulary memorization courses designed to prepare students for the Verbal section of the SAT. In each of these examples, a test with important consequences engenders the rise of curricula and classroom instructional responses, even when the test is mandated far from the classroom (e.g., MCTs), and even when focused instructional efforts are not intended (e.g., AP tests and the SAT).

In the remainder of this paper, we address two issues that are based on our premise of a reformulated NAEP as a "national achievement test." First, since we believe NAEP will come to define a national curriculum, how can NAEP be reformulated to assure that its impact on state and local curricula will improve curriculum, instruction, and achievement? Particularly, how do we circumvent NAEP's becoming an appendage to existing school programs and, thus, possibly undermining the coherence of those programs? Second, in what ways are SEAs and LEAs likely to change curriculum and instruction in response to NAEP's role as a "national achievement test?" It should become clear that we believe NAEP's use for state-by-state comparisons should promote as well as describe student achievement.

NAEP and Curriculum Coherence

NAEP objectives were never intended to define or describe a curriculum. In fact, NAEP was originally deliberately designed to make it "difficult if not impossible to link [NAEP] results to state or district programs or to grade-related practices in the schools" (Messick, Beaton, & Lord, 1983, p. 2). As NAEP Executive Director Archie E. Lapointe puts it, NAEP is not in the curriculum business, but NAEP objectives do provide "grist for the mill" (K. Ashworth, personal communication, July 30, 1986). And indeed, NAEP content area objectives booklets are the most frequently requested of NAEP publications.

NAEP's past efforts to stay out of the curriculum business appear to have been effective. However, the use of NAEP assessments for state-by-state comparisons may create a new link to teaching and learning, as we asserted earlier. The proposed use of NAEP assessments for state-by-state comparisons could standardize curricula across states, at least to some extent. The precise degree of this standardization remains to be seen, but the study group might give some forethought to NAEP's potential impact on existing state and local curricula. In particular, could it lead to misallocation of resources? Might it undermine whatever degree of coherence (defined below) that now exists in local curricula? Curriculum coherence is

closely related to Shulman's (1986) research on teacher knowledge of subject matter and Tyler's (1984) work on curriculum sequence and student learning. Their conclusions suggest that the more coherent a curriculum is, the more effective is instruction and learning.

In our view, coherence extends beyond calls for greater balance among subject areas (e.g., Powell, Farrar, & Cohen, 1985) and avoidance of "parallel" curricula such as SAT preparation courses offered in high schools. While we recognize the significance of these two conventional concerns, three other criteria for ensuring curriculum coherence also require consideration: organization, comprehensiveness, and inter-relatedness. The degree to which any curriculum meets these criteria, in large measure, determines the degree to which it is likely to facilitate good instruction.

"Organization" refers to how the substance of subject matter — its major facts, concepts, generalizations, skills, and values — is structured. "Comprehensiveness" refers to the scope and coverage of all of the most important facts, concepts, and skills. For example, objectives from the 1985-86 NAEP science assessment cover not only science disciplines such as chemistry and physics, but also processes and skills such as the nature and methods of scientific inquiry. Finally, "inter-relatedness" refers to the connections forged among the parts of a curriculum. A well inter-related American history course, for example, would include not only the causes and outcomes of the Civil War and Reconstruction, but also the connections between these causes and outcomes. (Of course, inter-relatedness can extend across subject areas, such as treating pollution in both science and social studies courses.)

We believe that the notion of curriculum coherence, because of its importance to instruction and learning, should be a criterion for making decisions about reformulating NAEP assessments and objectives and for aligning state and local curricula with NAEP. In whatever ways sets of NAEP objectives will be recast to meet the demands of state assessment and comparison, the coherence of these sets of objectives should be preserved and improved. Likewise, in whatever ways state and local curriculum and instructional staff adopt NAEP objectives or reformulate their own objectives to respond to state-by-state comparisons, coherence should be preserved. In this case, the coherence of NAEP objectives should be preserved as they are adopted into state and local curriculum guides and into instruction; and the coherence of state and local objectives should be preserved and enhanced as they are reformulated to align with NAEP objectives. (We discuss probable SEA and LEA responses to the anticipated "national curriculum" below.)

Until recent proposals for the use of NAEP for comparing states, the relationship of NAEP objectives to local curricula has been negligible. We predict that debates within NAEP Learning Area Committees about the inclusion of particular objectives in an assessment will be fired with a new intensity because of the proposed state comparisons. Reaching consensus about objectives and exercises

is likely to become more difficult as the views of SEA and LEA representatives are added. Our admonishment to preserve coherence at all levels will only complicate matters further. However, we believe that LEA and SEA input should be sought, consensus achieved, and coherence preserved so that NAEP assessments and state comparisons can encourage instructional improvement.

The CCSSO, in its own efforts to specify content areas and objectives for assessment and state-by-state comparisons, has identified three possible approaches to reaching consensus on what to test. ED can consider similar approaches for reformulating NAEP. Briefly, these approaches are:

1. Least common denominator : identify and test whatever curriculum objectives are now common across states.

2. Optimal consensus : identify and test the widest possible set of objectives that all states can agree upon.

3. Common core with local options : identify and test a set of objectives all states can agree upon and allow states to select independently other objectives to be assessed (Selden, 1986, pp. 7-8).

In our view, the least common denominator approach would lead to a focus on a narrow range of content. This content could be the most trivial and unconnected parts of curricula, and those parts already mastered by the majority of students. The common core/local options approach seems a more productive but unfeasible approach. For example, states' local options could be so different that they could be confusing when comparing states. The optimal consensus approach is most likely to produce test objectives that will provide achievement data for comparing states and improving achievement. And although this approach may make reaching consensus among NAEP staff and consultants and SEA and LEA representatives difficult, it is the one most likely to preserve coherence of NAEP and local objectives.

Some procedure for reaching consensus on what to test will have to be developed or chosen. Whatever that procedure may be, it should incorporate current NAEP procedures for generating, reviewing, and selecting NAEP objectives and exercises. These procedures include various steps for reviewing and revising objectives and exercises and for input from subject matter and measurement experts around the country and within the NAEP staff, and by staff of the Office of Educational Research and Improvement (Educational Testing Service, 1984). The procedures result in sets of coherent objectives. To illustrate, NAEP objectives booklets that we have examined — from the 1983-84 writing assessment, for example — meet our criteria for curriculum coherence. Objectives for this assessment are organized by purpose and audience (personal writing that students may use to learn about academic subjects and themselves, and public writing that is intended to inform, persuade, or entertain) and inter-relate these purposes by assessing students' control of the writing process,

language forms, and conventions (NAEP, 1982).

In addition to continuing and incorporating these procedures, we also recommend strong representation of staff from SEAs and LEAs. Such representation is essential if a good match among NAEP objectives, state curriculum guidelines, and local curriculum and instruction is to be fostered. This juncture in the evolution of NAEP and state assessment may be a once-an-era opportunity to encourage and aid student achievement from the federal level. Input from SEAs and LEAs can only help take advantage of the opportunity and preserve curriculum coherence.

Some discussion is appropriate at this point of NAEP score scales and their relationship to NAEP objectives. ETS began the practice of reporting student performance on NAEP assessments using score scales such as the Levels of (Reading) Proficiency (ETS, 1986). NAEP reports describe in a general way what students at each proficiency level are able to do. For example, students who read at a "Basic" level "can locate and identify facts [and]...understand specific or sequentially related information" (ETS, 1986, Figure 2.3). However, these levels are not clearly tied to NAEP objectives or to any implementable curriculum. Reporting performance on such scales facilitates criterion-referenced-like interpretations of student performance. But it would not capitalize on the opportunity to go beyond only comparing states on valued instructional outcomes to encouraging their performance on these outcomes. To fully benefit from the use of such scales in reading and other assessments, reports on levels of proficiency should be accompanied by the NAEP objectives related to each scale so that they can be implemented into state and local curricula. We do not mean to build an argument for remaking NAEP assessments into domain or criterion-referenced instruments from which strict interpretations can be made about the portion of a domain of skills and knowledge students have mastered. We are encouraging, however, that new procedures for reporting NAEP results include publicizing the link among proficiency levels, NAEP exercises (test items), and the coherent set of objectives used to guide exercise development.

To summarize, although NAEP claims not to be in the curriculum business, it may enter if NAEP assessments are used for state comparisons. What subject matter will be assessed on these "national achievement tests" is critical because it may become a "national curriculum." Because of its importance for effective instruction and learning, this curriculum must be coherent. Strong SEA and LEA representation and input to the content of NAEP assessments can preserve and even promote coherence. And clear descriptions of the links between NAEP results and objectives assessed by NAEP could improve instruction and student learning.

Likely Instructional Responses by LEAs and SEAs and Implications for ED

That the quality of each state's schools and instructional programs will be evaluated in comparison with the entire country and other individual states seems clear. Any state's comparative ranking could have far-reaching effects on education funding levels; migration of businesses, industry, and families in and out of the state; and residents' sense of well-being and satisfaction with their schools. Therefore, it seems logical to conclude that state and local staff will align their curricula with what is tested. What follows is a list of responses state and local educators are likely to make to prepare for or respond to these comparisons. The scenarios depicted can be thought of as what we might consider doing, as state or local school superintendents, in the face of being compared to other states and the nation. Members of the task force may discover further considerations in these likely responses for NAEP's use for comparing states.

Policy Responses

State and local educational policy-makers may choose to align their curriculum and instruction programs with this new "national curriculum," or they may choose not to respond. That is, they may either adapt, adopt, or ignore NAEP objectives.

Adapt NAEP objectives to state or local curricula, or vice-versa. Some superintendents of instruction may find that their current programs overlap with sets of NAEP objectives, and that some additions and adjustments will make alignment complete. The degree to which SEA and LEA input to the selection of NAEP objectives is representative of state and local curricula may vary widely from state to state and local district to local district. In turn, the degree of representativeness is likely to influence how much adaptation is required for various states and local districts. Further, the adaptations that are made could diminish the coherence of NAEP objectives while preserving the coherence and local relevance of local curricula or vice-versa. As a result of adaptation, NAEP objectives could become curriculum appendages, with little apparent connection to other parts of the curriculum. Such a parallel curriculum would not guide instruction and learning. Our earlier example of vocabulary memorization courses to prepare students for the SAT is an example of a curriculum appendage.

Adopt NAEP objectives. Other superintendents may see the "national curriculum" as an opportunity — or even a mandate — to revamp their curriculum. In fact, it is possible that many states and local districts will need to do so in order to align themselves with NAEP objectives. This need may be especially true for assessments of subject areas that do not receive wide-spread curriculum attention (such as citizenship and art) or in which instructional approaches have changed in recent years but have not been implemented in all

states and schools (for example, the writing process approach, especially in states that do not have direct writing assessments).

Ignore NAEP and state comparisons. Of course, states and/or locals may choose to ignore both comparisons to other states and the "national achievement test." States may choose not to adapt to or adopt any NAEP objectives. In addition, locals may choose to adapt to or adopt NAEP objectives in lesser or greater degrees than is their state department of education's policy.

Whatever decisions are made about aligning state and local curricula with NAEP objectives, such decisions should be guided by considerations for their impact on curriculum coherence and instructional effectiveness. Also, SEAs and LEAs might be wise to publicize with which NAEP assessments and objectives their state and local curricula are not aligned, and warn their constituents not to expect performance on assessments in these areas.

As we know from the last 15 years, implementation of innovations into local activities is a process of "mutual adaptation" (McLaughlin, 1976). That is, new policies and procedures are negotiated and adapted as they filter down through organizational levels (Fullan, 1982). The degree of implementation of NAEP objectives, whatever policies are established regarding NAEP, is likely to vary across LEAs within states, schools within LEAs, and even classrooms within LEAs. Efforts to align curricula with NAEP objectives are likely to be impeded by this adaptation process. Further, current NAEP sampling procedures do not allow states to anticipate which schools and districts will participate in a particular assessment. Assessment results could produce a misleading picture of a particular state in a positive or negative direction. For example, a state that may otherwise be performing quite well in a curriculum area could be misrepresented by a local district that participated in an assessment but which chose to ignore NAEP objectives in the assesment area.

What considerations are implied by these observations? First, that the "national curriculum" objectives are likely to be implemented unevenly as a result of policy decisions that will influence "natural" adaptation processes. Second, that relative rankings of states on NAEP assessments will be affected by local policy decisions that affect implementation processes, as well as by the quality of local instruction and student achievement. Finally, local efforts to integrate NAEP objectives with local curricula probably should be supported through technical assistance from ED and links with universities and other states and local districts, so that curriculum coherence is preserved and enhanced.

Practical Responses

If states and locals do choose to respond to the curriculum defined by NAEP objectives, they could respond with at least four activities:

1. Conduct curriculum-test match studies to identify curriculum areas assessed by NAEP not included or emphasized in local curricula. What could result is shifts from what is currently being taught to what "should be" taught in order to prepare students for NAEP assessments. The shifts could improve or diminish curriculum coherence at the local level, as we discuss above.

2. Construct and administer practice tests -- generated from NAEP objectives and similar to NAEP exercises — to identify areas of strength and weakness. This sort of response to NAEP was not originally intended, but represents an opportunity for NAEP to encourage achievement, not just describe it. However, such a response could be in direct competition with other local assessment activities, either for assessment time or for curriculum emphasis.

3. Review textbooks and curriculum materials for adoption in light of their coverage of NAEP objectives. This in turn could affect publishers' revision, development, and marketing activities similar to the effects of the basic skills movement of the late 1970s.

4. Conduct workshops: SEAs could provide training and assistance to LEA staff, who in turn could aid school staff in integrating, adapting, and implementing NAEP objectives.

Conclusion

Some of the responses and implications we suggest may seem far-fetched at this time. For example, local curriculum staff and teachers may seem well-insulated from the rumblings an SEA may make as a result of being compared to nearby states. The notion of NAEP as a "national achievement test" representing a "national curriculum" may seem mildly implausible at best. However, we should keep in mind that as recently as the early 1980s state legislators and departments of education probably had no idea of the effects they would have on classroom activities by tying high school diplomas to performance on minimum-competency tests. It takes only a bit of imagination, we believe, to envision the similar impact that using NAEP for state-by-state comparisons can have on state and local curricula and achievement.